Western Digital's HAMR tech could increase disk capacity five-fold

Its demo follows others by Seagate and TDK

**By** [**Lucas Mearian**](http://www.computerworld.com/s/author/592/Lucas%2BMearian)

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Computerworld - Western Digital today said it has demonstrated heat-assisted magnetic recording (HAMR) technology at a Chinese trade show.

The technology has the potential to increase the density through which data is stored on hard disk drives by more than five times.

At the China International Forum on Advanced Materials and Commercialization, Western Digital's vice president of technology, Dr. William Cain, used a PC running a HAMR 2.5-in. hard drive.

"Analysts predict 25 trillion gigabytes of new data will be generated by 2020 and that average household storage needs in the U.S. will require as much as 3.3 TB by 2016," Cain said in a news release. "WD is focused on hard drive innovations that will enable future storage capabilities, and HAMR technology is a key step in the migration path."

Western Digital's demonstration of HAMR follows [earlier ones](http://bit.ly/17HwwvQ) by Seagate and TDK.

Currently, the highest density disk drives pack about 750Gbits per inch on a platter. HAMR has the potential to increase areal density to 4 terabits per square inch. HAMR is among a handful of technologies promising to greatly increase disk drive density over the next decade.

[HAMR technology](http://www.computerworld.com/s/article/9001582/Make_way_for_the_terabyte_laptop_drive), created by Seagate, uses a laser to briefly heat a hard drive's disk surface during magnetic head recording. The heat shrinks a platter's data bits and tightens the concentric circles, known as tracks, in order to increase density. HAMR also uses nanotube-based lubrication to allow the read/write head of a disk to get closer to the surface in order to be better able to read and write the data.

Seagate has it will be able to produce a 20TB 3.5-in. hard drive by 2020. Laptop drives could reach 10TB in the same time frame, according to IHS iSuppli.

BPM (bit patterned recoding) and SMR (Shingled Magnetic Recording) are two other promising technologies expected to further increase the areal density of the drive platters.